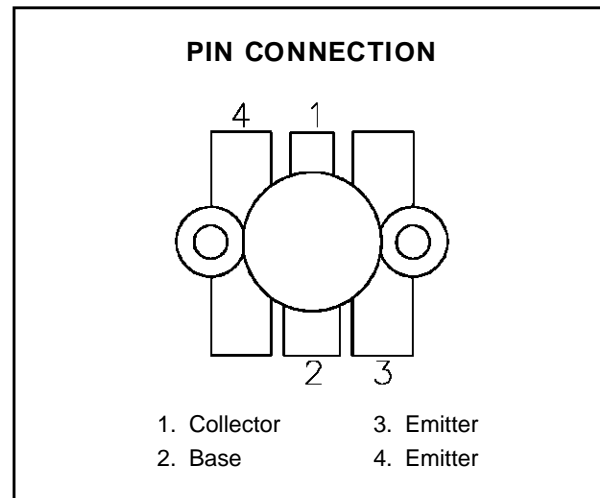
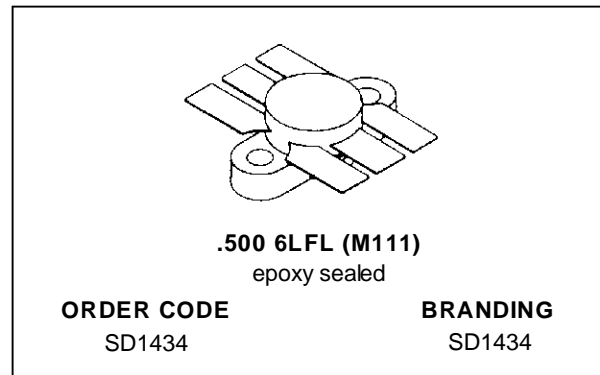


**RF & MICROWAVE TRANSISTORS
UHF MOBILE APPLICATIONS**

- 470 MHz
- 12.5 VOLTS
- COMMON EMITTER
- $P_{OUT} = 45 \text{ W MIN. WITH } 5.0 \text{ dB GAIN}$


DESCRIPTION

The SD1434 is a 12.5 V Class C epitaxial silicon NPN planar transistor designed primarily for UHF communications. This device utilizes diffused emitter resistors to achieve infinite VSWR under operating conditions.

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}\text{C}$)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	36	V
V_{CEO}	Collector-Emitter Voltage	16	V
V_{CES}	Collector-Emitter Voltage	36	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	10.0	A
P_{DISS}	Power Dissipation	175	W
T_J	Junction Temperature	+200	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	- 65 to +150	$^{\circ}\text{C}$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	1.0	$^{\circ}\text{C/W}$
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SD1434

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

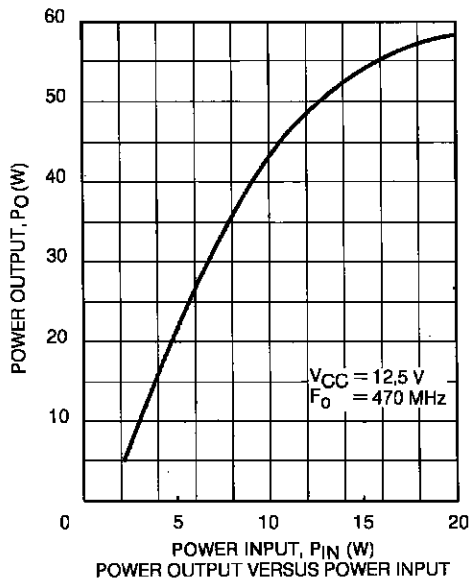
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 5mA	I _E = 0mA	36	—	—	V
BV _{CES}	I _C = 20mA	V _{BE} = 0V	36	—	—	V
BV _{CEO}	I _C = 50mA	I _B = 0mA	16	—	—	V
BV _{EBO}	I _E = 5mA	I _C = 0mA	4.0	—	—	V
I _{CES}	V _{CE} = 22V	I _E = 0mA	—	—	5	mA
I _{CBO}	V _{CB} = 15V	I _E = 0mA	—	—	5	mA
h _{FE}	V _{CE} = 5V	I _C = 1A	20	—	200	—

DYNAMIC

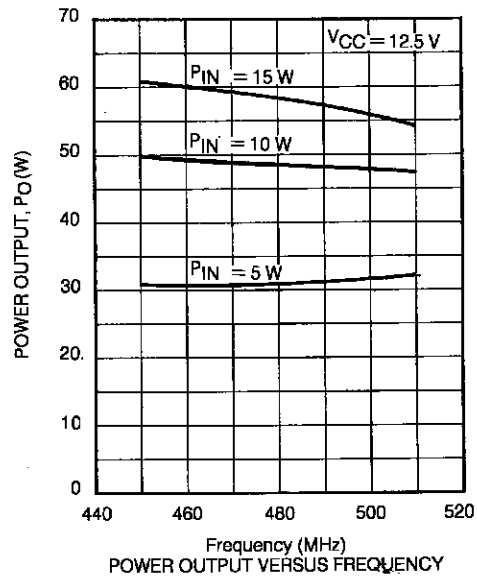
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 470 MHz	P _{IN} = 14 W	V _{CE} = 12.5 V	45	—	—	W
G _P	f = 470 MHz	P _{IN} = 14 W	V _{CE} = 12.5 V	5	—	—	dB
C _{OB}	f = 1 MHz	V _{CB} = 12.5 V		—	130	—	pF

TYPICAL PERFORMANCE

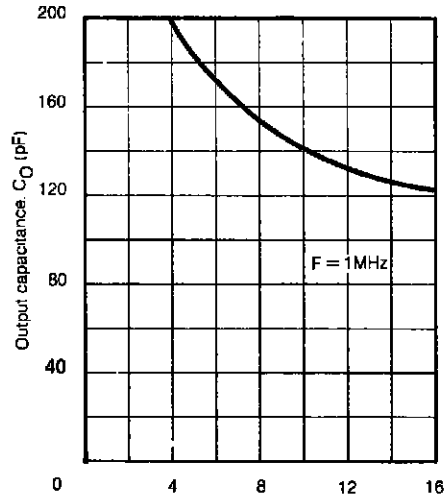
POWER OUTPUT vs POWER INPUT



POWER OUTPUT vs FREQUENCY

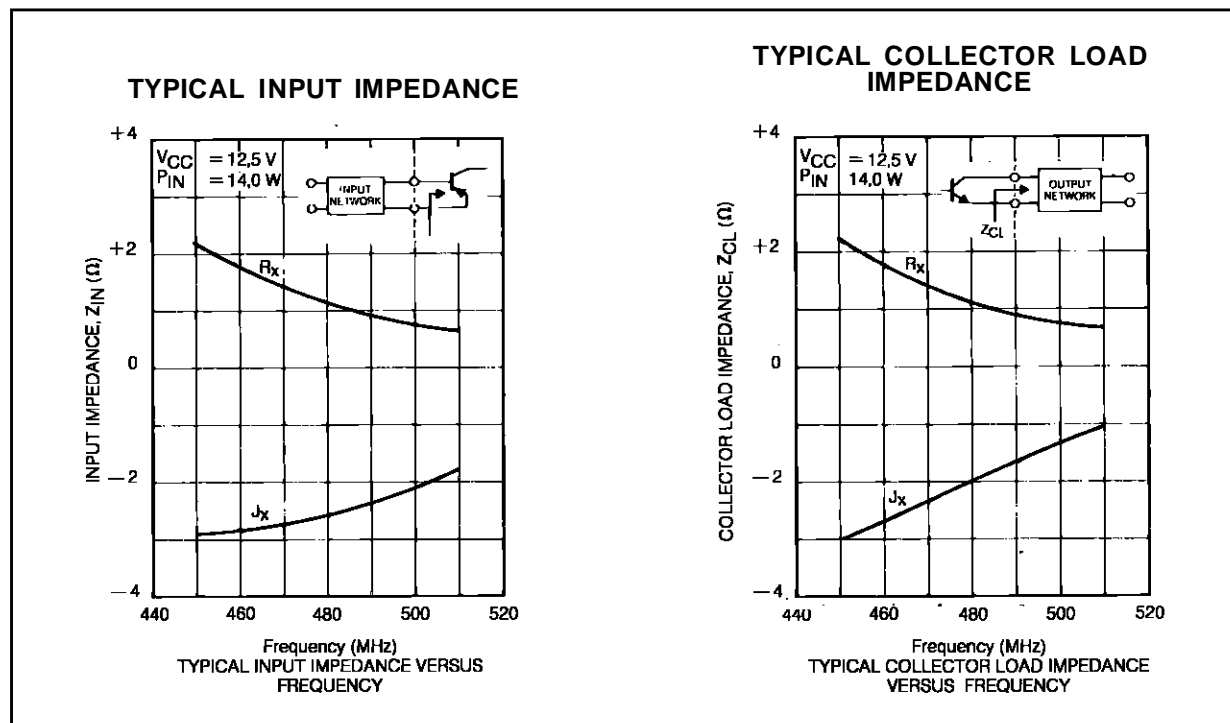


TYPICAL PERFORMANCE (cont'd)

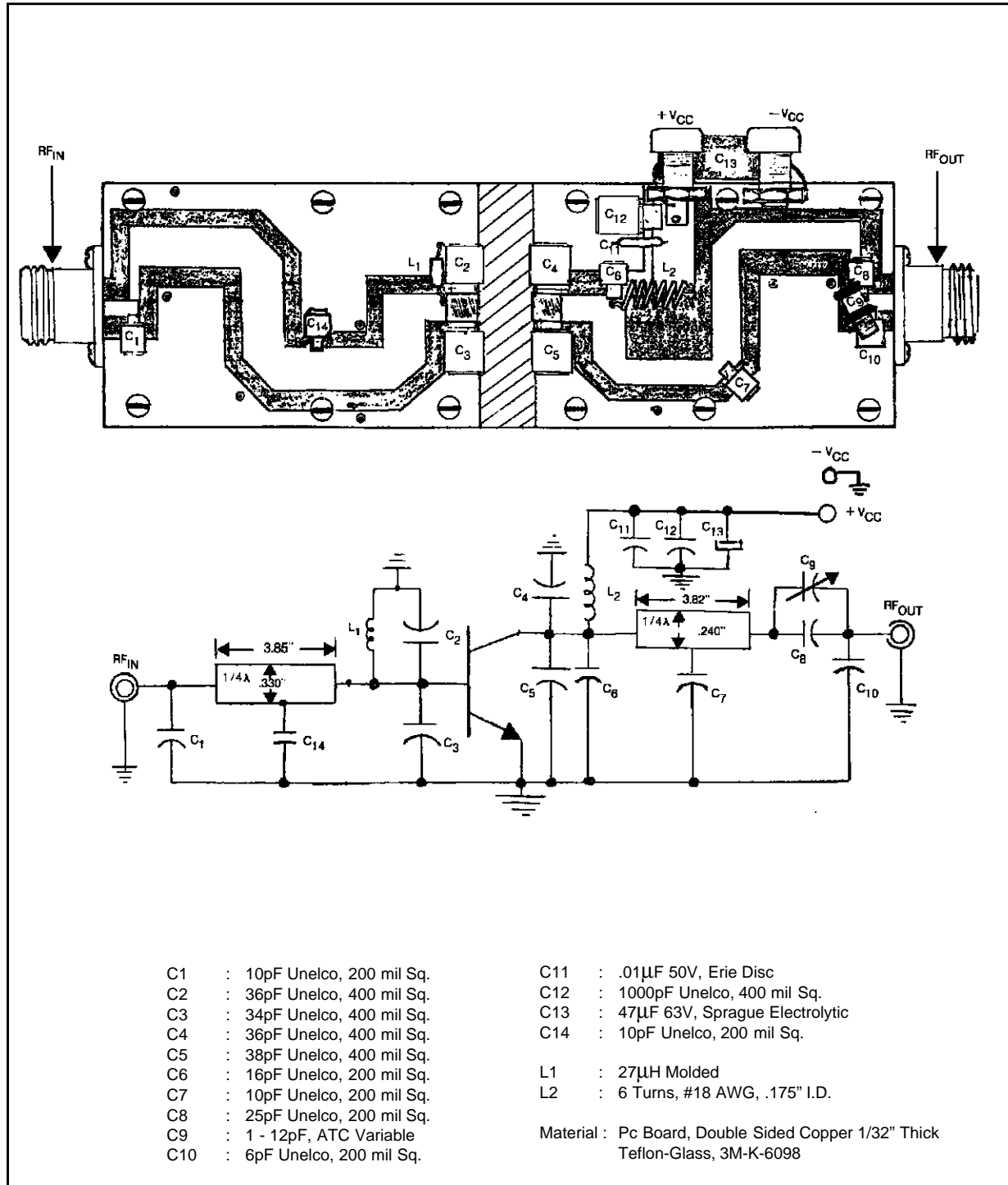
OUTPUT CAPACITANCE vs COLLECTOR
BASE VOLTAGE

Collector - base voltage, V_{CB} (V)
OUTPUT CAPACITANCE VERSUS
COLLECTOR - BASE VOLTAGE

IMPEDANCE DATA

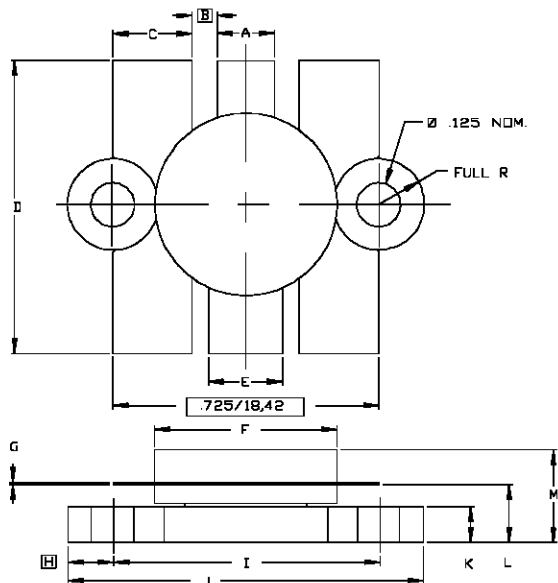


TEST CIRCUIT



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0111



SGS-THOMSON MICROELECTRONICS			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.150/3,43	.160/4,06	K	.095/2,41	.105/2,67
B	.045/1,14		L	.150/3,81	.170/4,32
C	.210/5,33	.220/5,59	M		.280/7,11
D	.835/21,21	.865/21,97			
E	.200/5,08	.210/5,33			
F	.490/12,45	.510/12,95			
G	.003/0,08	.007/0,18			
H	.125/3,18				
I	.720/18,29	.730/18,54			
J	.970/24,64	.980/24,89			

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